



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/966,753	10/01/2001	Lev Smolyar	P-1987-US1	3706
27130	7590	01/19/2005	EXAMINER	
EITAN, PEARL, LATZER & COHEN ZEDEK LLP 10 ROCKEFELLER PLAZA, SUITE 1001 NEW YORK, NY 10020			ZHENG, EVA Y	
			ART UNIT	PAPER NUMBER
			2634	

DATE MAILED: 01/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/966,753

Applicant(s)

SMOLYAR ET AL.

Examiner

Eva Yi Zheng

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/1/01.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/10/02, 5/24/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 14 is objected to because of the following informalities: on line 5, recitation: "at least to fingers" should be changed to -- at least two fingers --. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-5, 9-12, 14-18, 22-26, 29 and 30 are rejected under 35 U.S.C. 102(e) as being anticipated by La Rosa et al. (US 6,078,611).
 - a) Regarding claim 1, La Rosa et al. disclose a receiver comprising:
 - a direction metric (inherent as early, on-time and late; Fig. 2) determiner which generates direction metrics of each of a set of possible directions of joint movement of at least two fingers of a finger block (112 in Fig. 1 and 202 and 204 in Fig. 2; 316 in Fig. 3);
 - a metric selector (208 in Fig. 2; 318 and 322 in Fig. 3) which selects one of said direction metrics according to a predetermined criterion (Col 5, L39-48); and

a finger adjuster (210 in Fig. 2; 324 in Fig. 3) which moves the fingers of said finger block in the directions indicated by said selected direction metric (Col 5, L32-65).

b) Regarding claim 14, La Rosa et al. disclose an article comprising a storage medium having stored thereon instructions (114 in Fig. 1), that, when executed by a computing platform, cause the computing platform to generate a direction metric of each of a set of possible directions of joint movement (inherent as early, on-time and late) of at least two fingers of finger block (112 in Fig. 1 and 202 and 204 in Fig. 2; 316 in Fig. 3), select one of said direction metrics according to a predetermined criterion (208 in Fig. 2; 318 and 322 in Fig. 3), and to move the fingers of said finger block in the directions indicated by said selected direction metric (210 in Fig. 2; Col 5, L32-65; 324 in Fig. 3).

c) Regarding claim 29, La Rosa et al. disclose a method comprising forming a finger block of at least two fingers (Finger A and Finger B); and jointly tracking the fingers of said finger block (316 in Fig. 3).

d) Regarding claim 2, La Rosa et al. disclose a receiver according to claim 1, wherein said selected direction metric is the maximal direction metric ("other threshold values may also be used"; Col 5, L8-10).

e) Regarding claims 3 and 16, La Rosa et al. disclose wherein said finger adjuster moves the fingers of said finger block only if said selected direction metric is the maximal direction metric and exceeds a comparison direction metric by at least a predetermined threshold (316, 318, 322 and 324 in Fig. 3).

Art Unit: 2634

- f) Regarding claim 4, La Rosa et al. disclose said finger adjuster includes a redefiner which redefines finger blocks once said fingers have been moved (324, 308, 310 and 312 in Fig. 3).
- g) Regarding claim 5, La Rosa et al. disclose a receiver according to claim 1, wherein said finger block is formed of two fingers (316 in Fig. 3).
- h) Regarding claim 9, La Rosa et al. disclose a receiver according to claim 1, wherein said finger block is formed of two closely spaced fingers (112 in Fig. 1 and 316 in Fig. 3).
- i) Regarding claims 10 and 23, La Rosa et al. disclose closely spaced fingers are $7/8$ chip apart ("other threshold values may also be used"; Col 5, L8-10).
- j) Regarding claim 11, La Rosa et al. disclose a receiver according to claim 1, wherein said finger block is formed of three fingers (Col 6, L63-65).
- k) Regarding claims 12 and 25, La Rosa et al. disclose delays between fingers are set to be no smaller than $7/8$ chip (Col 6, L48-49).
- l) Regarding claim 15, La Rosa et al. disclose the article according to claim 14, wherein said selected direction metric is the maximal direction metric ("other threshold values may also be used"; Col 5, L8-10).
- m) Regarding claim 17, La Rosa et al. disclose having stored instructions which cause the computing platform to redefine the finger blocks (324 in Fig. 3).
- n) Regarding claim 18, La Rosa et al. disclose the article according to claim 14, wherein said finger block is formed of two fingers (316 in Fig. 3).

o) Regarding claim 22, La Rosa et al. disclose the article according to claim 14, wherein said finger block is formed of two closely spaced fingers (112 in Fig. 1 and 316 in Fig. 3).

p) Regarding claim 24, La Rosa et al. disclose the article according to claim 14, wherein said finger block is formed of three fingers (Col 6, L63-65).

q) Regarding claim 26, La Rosa et al. disclose wherein said steps of generating includes the step of time averaging said direction metrics by summing consecutive direction metrics (206 in Fig. 2).

r) Regarding claim 30, La Rosa et al. disclose a method according to claim 29, wherein the step of jointly tracking comprises the steps of:

generating direction metrics (inherent as early, on-time and late; Fig. 2) of each of a set of possible directions of joint movement of two fingers of said finger block (112 in Fig. 1 and 202 and 204 in Fig. 2; 316 in Fig. 3);

selecting one of said direction metrics (208 in Fig. 2) according to a predetermined criterion (Col 5, L39-48; 318 and 322 in Fig. 3); and

moving the fingers of said finger block (210 in Fig. 2) in the directions indicated by said selected direction metric (Col 5, L32-65; 324 in Fig. 3).

4. Claims 1, 2, 5, 9, 11, 14, 15, 18, 22, 24, 29 and 30 are rejected under 35 U.S.C. 102(e) as being anticipated by Tran (US 6,269,075 B1).

a) Regarding claim 1, Tran discloses a receiver comprising:

a direction metric (inherent as early, on-time and late; 16 in Fig. 1) determiner which generates direction metrics of each of a set of possible directions of joint movement of at least two fingers of a finger block (Col 5, L54-65);

a metric selector (88 in Fig. 1) which selects one of said direction metrics according to a predetermined criterion (Col 7, L48-53); and

a finger adjuster (block 88 and signal 90 in Fig. 1) which moves the fingers of said finger block in the directions indicated by said selected direction metric (Col 6, L19-24; Col 7, L48-53).

b) Regarding claim 14, Tran discloses an article comprising a storage medium having stored thereon instructions, that, when executed by a computing platform, cause the computing platform to generate a direction metrics of each of a set of possible directions of joint movement (inherent as early, on-time and late) of at least two fingers of finger block (16 in Fig. 1), select one of said direction metrics according to a predetermined criterion (88 in Fig. 1; Col 7, L48-53), and to move the fingers of said finger block in the directions indicated by said selected direction metric (signal 90 in Fig. 1; Col 6, L19-24; Col 7, L48-53).

c) Regarding claim 29, Tran discloses a method comprising forming a finger block of at least two fingers (16 in Fig. 1); and jointly tracking the fingers of said finger block (88 in Fig. 1).

d) Regarding claim 2, Tran discloses a receiver according to claim 1, wherein said selected direction metric is the maximal direction metric (abstract).

- e) Regarding claim 5, Tran discloses a receiver according to claim 1, wherein said finger block is formed of two fingers (16 in Fig. 1).
- f) Regarding claim 9, Tran discloses a receiver according to claim 1, wherein said finger block is formed of two closely spaced fingers (16 in Fig. 1).
- g) Regarding claim 11, Tran discloses a receiver according to claim 1, wherein said finger block is formed of three fingers (16 in Fig. 1).
- h) Regarding claim 15, Tran discloses the article according to claim 14, wherein said selected direction metric is the maximal direction metric (abstract).
- i) Regarding claim 18, Tran discloses the article according to claim 14, wherein said finger block is formed of two fingers (16 in Fig. 1).
- j) Regarding claim 22, Tran discloses the article according to claim 14, wherein said finger block is formed of two closely spaced fingers (16 in Fig. 1).
- k) Regarding claim 24, Tran discloses the article according to claim 14, wherein said finger block is formed of three fingers (16 in Fig. 1).
- l) Regarding claim 30, Tran discloses a method according to claim 29, wherein the step of jointly tracking comprises the steps of:
 - generating direction metrics (inherent as early, on-time and late; 16 in Fig. 1) of each of a set of possible directions of joint movement of two fingers of said finger block (Col 5, L54-65);
 - selecting one of said direction metrics (88 in Fig. 1) according to a predetermined criterion (Col 7, L48-53); and

moving the fingers of said finger block (block 88 and signal 90 in Fig. 1) in the directions indicated by said selected direction metric (Col 6, L19-24; Col 7, L48-53).

5. Claims 1, 13, 14 and 28 are rejected under 35 U.S.C. 102(e) as being anticipated by Basso (US 6,345,078B1).

a) Regarding claim 1, Basso discloses a receiver comprising:

a direction metric (inherent as early, on-time and late) determiner which generates direction metrics of each of a set of possible directions of joint movement of at least two fingers of a finger block (30 and 31 in Fig.5);

a metric selector (32 in Fig. 5) which selects one of said direction metrics according to a predetermined criterion; and

a finger adjuster (34 in Fig. 5) which moves the fingers of said finger block in the directions indicated by said selected direction metric (as shown in Fig. 5).

b) Regarding claim 14, Basso discloses an article comprising a storage medium having stored thereon instructions, that, when executed by a computing platform, cause the computing platform to generated a direction metrics of each of a set of possible directions of joint movement (inherent as early, on-time and late) of at least two fingers of finger block (30 and 31 in Fig. 5), select one of said direction metrics according to a predetermined criterion (32 in Fig. 5), and to move the fingers of said finger block in the directions indicated by said selected direction metric (34 in Fig. 5).

c) Regarding claims 13 and 28, Basso discloses wherein said direction metrics are based on power estimation (same as energy; Col 2, L52-55).

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1-13 and 29-30 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-12 and 15 of U.S. Patent No.6,314,130 B1. Although the conflicting claims are not identical, they are not patentably distinct from each other because the narrow application claims would have been obvious in view of the broader issued claims.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

a) Regarding claims 1 and 30;

a receiver comprising;

a direction metric determiner which generates direction metrics of each of a set of possible directions of joint movement of at least two fingers of a finger block;

a metric selector which selects one of said direction metrics according to a predetermined criterion; and

a finger adjuster which moves the fingers of said finger block in the directions indicated by said selected direction metric.

b) Regarding claim 2;

selected direction metric is the maximal direction metric.

c) Regarding claim 3;

finger adjuster moves the fingers of said finger block only if said selected direction metric is the maximal direction metric and exceeds a comparison direction metric by at least a predetermined threshold.

d) Regarding claim 4;

finger adjuster includes a redefiner which redefines finger blocks once said fingers have been moved.

e) Regarding claim 5;

finger block is formed of two fingers.

f) Regarding claim 6;

determined generates said direction metrics for five different directions of joint movement.

g) Regarding claim 7;

determined generates said direction metrics for six different directions of joint movement.

h) Regarding claim 8;

determined generates said direction metrics for nine different directions of joint movement.

Art Unit: 2634

- i) Regarding claim 9;
finger block is formed of two closely spaced fingers.
- j) Regarding claim 10;
closely spaced fingers are $7/8$ chip apart.
- k) Regarding claim 11;
finger block is formed of three fingers.
- l) Regarding claim 12;
delays between fingers are set to be no smaller than $7/8$.
- m) Regarding claim 13,
direction metrics are based on power estimation.
- n) Regarding claim 29;
forming a finger block of at least two fingers; and jointly tracking the fingers of said finger block.

8. Claims 14-28 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-15 of U.S. Patent No. 6,314,130 B1 in view of Langberg et al. (US 5,852,630).

- a) Regarding claim 14, U.S. Patent No. 6,314,130 B1 discloses all of the subject matter as described above except for a storage medium in a computing platform.

However, Langberg et al. teaches that the method and apparatus for a transceiver warm start activation procedure with precoding can be implemented in software stored in a computer readable medium. The computer readable medium is an electronic, magnetic optical, or other physical device or means that can be contain or

Art Unit: 2634

store a computer program for use by or in connection with a computer related system for method (C 3, L51-65). One skilled in the art would have clearly recognized that the method of U.S. Patent No. 6,314,130 B1 would have been implemented in software.

The implemented software would perform same function of the hardware for less expense, adaptability, and flexibility. Therefore, it would have been obvious to use the software in the system of U.S. Patent No. 6,314,130 B1 as taught by Langberg et al. in order to reduce cost and improve the adaptability and flexibility of the communication system.

b) Regarding claim 15;

selected direction metric is the maximal direction metric.

c) Regarding claim 16;

finger adjuster moves the fingers of said finger block only if said selected direction metric is the maximal direction metric and exceeds a comparison direction metric by at least a predetermined threshold.

d) Regarding claim 17;

finger adjuster includes a redefiner which redefines finger blocks once said fingers have been moved.

e) Regarding claim 18;

finger block is formed of two fingers.

f) Regarding claim 19;

determined generates said direction metrics for five different directions of joint movement.

Art Unit: 2634

- g) Regarding claim 20;
determined generates said direction metrics for six different directions of joint movement.
- h) Regarding claim 21;
determined generates said direction metrics for nine different directions of joint movement.
- i) Regarding claim 22;
finger block is formed of two closely spaced fingers.
- j) Regarding claim 23;
closely spaced fingers are $\frac{7}{8}$ chip apart.
- k) Regarding claim 24;
finger block is formed of three fingers.
- l) Regarding claim 25;
delays between fingers are set to be no smaller than $\frac{7}{8}$.
- m) Regarding claim 26;
steps of generating includes the step of time averaging said direction metrics by summing consecutive direction metrics.
- n) Regarding claim 27;
step of time averaging uses a forgetting factor.
- o) Regarding claim 28;
direction metrics are based on power estimation.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eva Yi Zheng whose telephone number is (571) 272-3049. The examiner can normally be reached on 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (571) 272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-879-9306.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

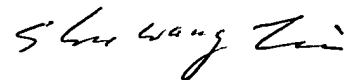
(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Eva Yi Zheng
Examiner
Art Unit 2634

January 11, 2005



SHUWANG LIU
PRIMARY EXAMINER